

## 1350.0 - Australian Economic Indicators, Jun 2000

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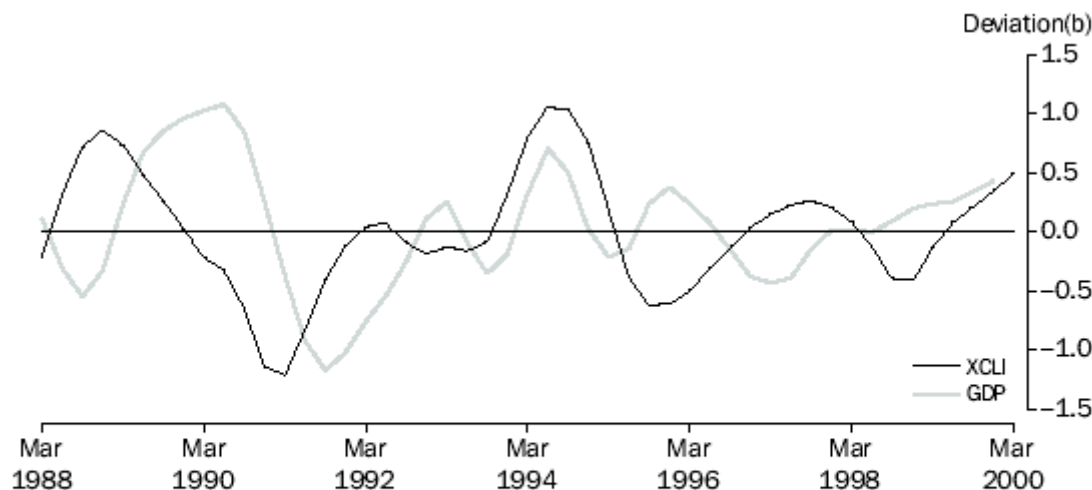
### BACKGROUND

The ABS Experimental Composite Leading Indicator (XCLI) is a single time series designed to provide early signals of turning points in the Australian business cycle. It does not predict the level of GDP or signal recessions or recoveries. Past performance of the XCLI shows it led turning points in the business cycle by between one and six quarters, with the average being around two quarters.

The XCLI has been developed to supplement rather than to compete with existing forms of economic analysis and forecasting. It is published each quarter in **Australian Economic Indicators** (in the March, June, September and December issues).

### MOST RECENT MOVEMENTS

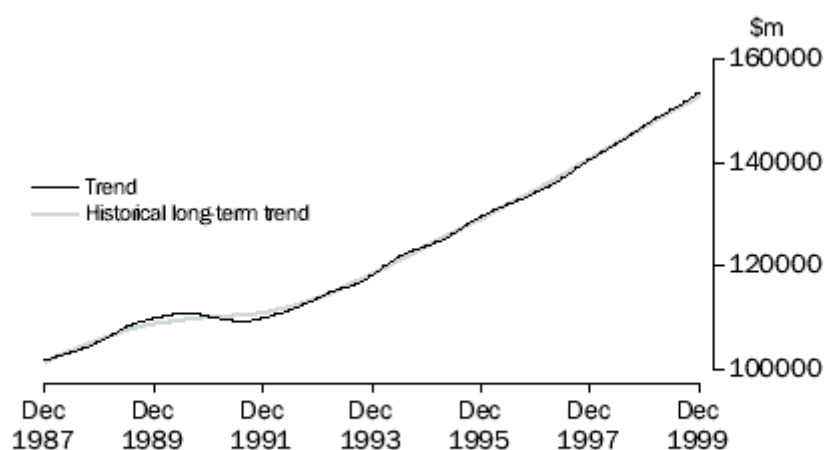
#### 1. EXPERIMENTAL COMPOSITE LEADING INDICATOR (XCLI) AND ITS TARGET, THE BUSINESS CYCLE IN GDP- Chain volume measure (reference year 1997-1998)(a)



(a) The historical long-term trend growth rate of GDP is 0.95% in the December quarter 1999 and the trend growth rate is 1.04%.

(b) Deviation is the unit of measure for the GDP series. The XCLI series has no official unit of measure, ie it is dimensionless. (see Endnote).

#### 2. GDP, Chain volume measure (reference year 1997-98)



Source: ABS (Cat. no. 5206.0), Quarterly data

**TABLE 1 XCLI AND GDP CHAIN VOLUME MEASURE (REFERENCE YEAR 1997-98)**

	Dec 1998	Mar 1999	Jun 1999	Sep 1999	Dec 1999	Mar 2000
<b>LEVEL</b>						
XCLI	-0.41	-0.13	0.08	0.21	0.35	0.49
GDP Trend (\$m)	147,234	148,821	150,305	151,872	153,452	na
GDP Long-term trend (\$m)	146,940	148,458	149,924	151,359	152,797	na
GDP Business cycle	0.20	0.24	0.25	0.34	0.43	na
<b>MOVEMENT FROM PREVIOUS QUARTER</b>						
XCLI (change)	-0.02	0.28	0.21	0.13	0.14	0.14
GDP Trend (% change)	1.17	1.08	1.00	1.04	1.04	na
GDP Long-term trend (% change)	1.06	1.03	0.99	0.96	0.95	na
GDP Business cycle (change)	0.11	0.04	0.01	0.08	0.09	na

**TABLE 2 CONTRIBUTIONS TO QUARTERLY CHANGES IN THE XCLI**

	Dec 1998	Mar 1999	Jun 1999	Sep 1999	Dec 1999	Mar 2000
Trade factor	-0.08	0.07	0.07	0.04	0.04	0.06
United States GDP	0.00	-0.03	-0.03	0.04	0.09	0.09
Housing Finance Commitments	0.02	0.03	0.07	0.04	0.00	-0.03
Job Vacancies	-0.11	-0.04	0.03	0.06	0.06	0.03
All Industrials index	0.01	0.11	-0.02	-0.12	-0.04	0.05
Real interest rate (inverse lagged four quarters)	0.03	0.01	0.02	0.02	-0.03	-0.07
Production expectations (lagged one quarter)	0.08	0.04	-0.02	0.01	0.04	0.03
Business expectations (lagged one quarter)	0.02	0.09	0.09	0.04	-0.01	-0.02
Total XCLI, change from previous quarter	-0.02	0.28	0.21	0.13	0.14	0.14

The XCLI rose 0.14 in the March quarter 2000, the fifth consecutive signal of growth in the Australian (GDP) business cycle (see Graph 1). The most recent peak in the XCLI which

occurred in September quarter 1997, has not yet been reflected in the GDP business cycle.

In the March quarter 2000, the largest positive contribution to the XCLI came from the United States GDP component (0.09) while the largest negative contribution came from the real interest rate component (-0.07) (see table 2).

In the expansionary phase of the current GDP business cycle that started in the June quarter 1997, GDP trend has been growing at above 1% a quarter, the strongest consecutive quarterly growth since 1970. Meanwhile, the historical long-term trend grew at above 1% until the March quarter 1999, falling to just below 1% thereafter.

GDP trend has been growing faster than its historical long-term trend in ten out of the last eleven quarters. In the March quarter 2000, GDP trend rose by 1.04% while its historical long-term trend increased by 0.95% (refer to Table 1).

## **REFERENCE SERIES**

The reference or target series for the XCLI is the business cycle in Australia. The business cycle of a series is defined as the deviation between the trend and the historical long-term trend in the series. Graph 1 shows the business cycles in GDP and the XCLI. Graph 2 shows the level of trend GDP compared with its historical long-term trend.

## **NON-FARM GDP**

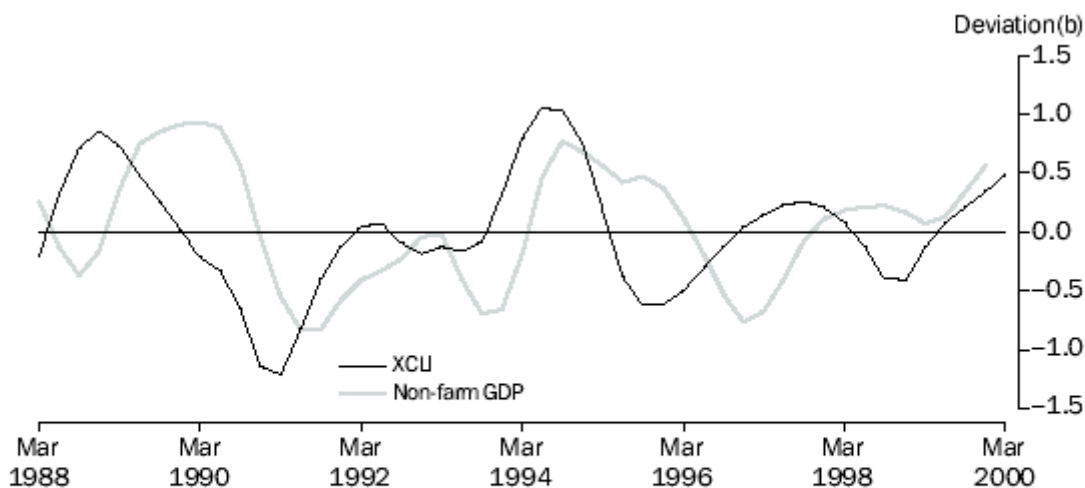
In the December quarter 1995, there was a peak in the business cycle which the XCLI failed to predict. This peak was largely attributable to the effects of a good farm season. The XCLI does not contain an indicator which leads first order farm product effects. In recognition of this, Graph 3 presents an alternative target series, namely, the business cycle of non-farm GDP, chain volume measure.

In the September quarter 1998, the non-farm business cycle recorded a provisional peak. The XCLI, which recorded a peak in the September quarter 1997, led this turning point by four quarters. The provisional peak in non-farm GDP in the September quarter 1998 was not reflected in the GDP business cycle, suggesting that farm GDP made a positive contribution to the growth of GDP in the following quarters.

By examining GDP and non-farm GDP data, it can be deduced that farm product made a positive contribution to the growth in the GDP business cycle in the December quarter 1998, March quarter 1999 and June quarter 1999 and a negative contribution in the December quarter 1999. This implies that farm gross product underpinned the strong growth in the business cycle during 1999, but its influence has since weakened.

## **3. EXPERIMENTAL COMPOSITE LEADING INDICATOR (XCLI) AND, THE BUSINESS CYCLE IN NON-FARM GDP**

**Chain volume measure (reference year 1997-98)(a)**



(a) The historical long-term trend growth rate of non-farm GDP is 0.94% in the September quarter 1999 and the trend growth rate is 1.18%.

(b) Deviation is the unit of measure for the GDP series. The XCU series has no official unit of measure, ie it is dimensionless (see Endnote).

## ANALYSIS OF COMPONENT INDICATORS

### Deviation from historical long-term Trend

The XCLI summarises the business cycles present in a selection of economic indicators which had typically shown turning points ahead of the business cycle in GDP from the early 1970s to the early 1990s. Because the evolution of each expansion and contraction in activity presents a unique combination of features, none of the individual component indicators has had an unvarying or perfectly stable leading relationship with GDP. However, when combined to form the XCLI their performance as a group is more stable. The XCLI has no official unit of measure, i.e. it is dimensionless (see the Endnote).

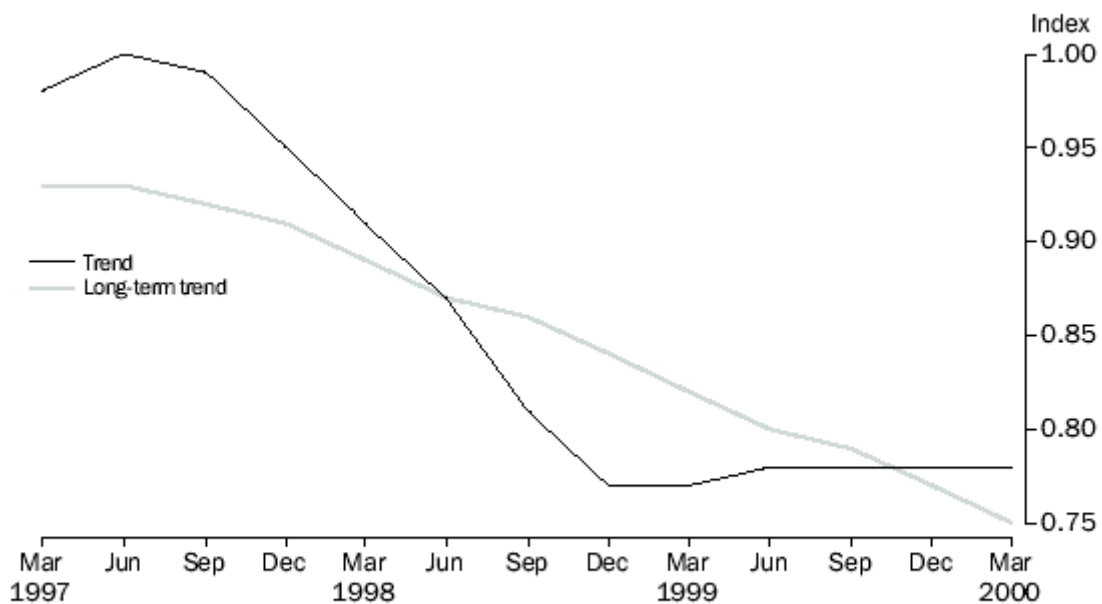
In the March quarter 2000, five of the eight components made positive contributions to the quarterly change in the XCLI and three components made negative contributions (Table 2). Graphs 4 to 11 show each component's trend and historical long-term trend.

**Positive contributions:** The components making positive contributions to the quarterly change in the March quarter 2000 XCLI were United States GDP (0.09, Graph 5), the trade factor (0.06, Graph 4), All Industrials index (0.05, Graph 8), job vacancies (0.03, Graph 7) and production expectations (0.03, Graph 10).

**Negative contributions:** The components making negative contributions to the quarterly change in the March quarter 2000 XCLI were the real interest rate factor (-0.07, Graph 9), housing finance commitments (-0.03, Graph 6) and business expectations (-0.02, Graph 11).

### Trade Factor

## 4. TRADE FACTOR



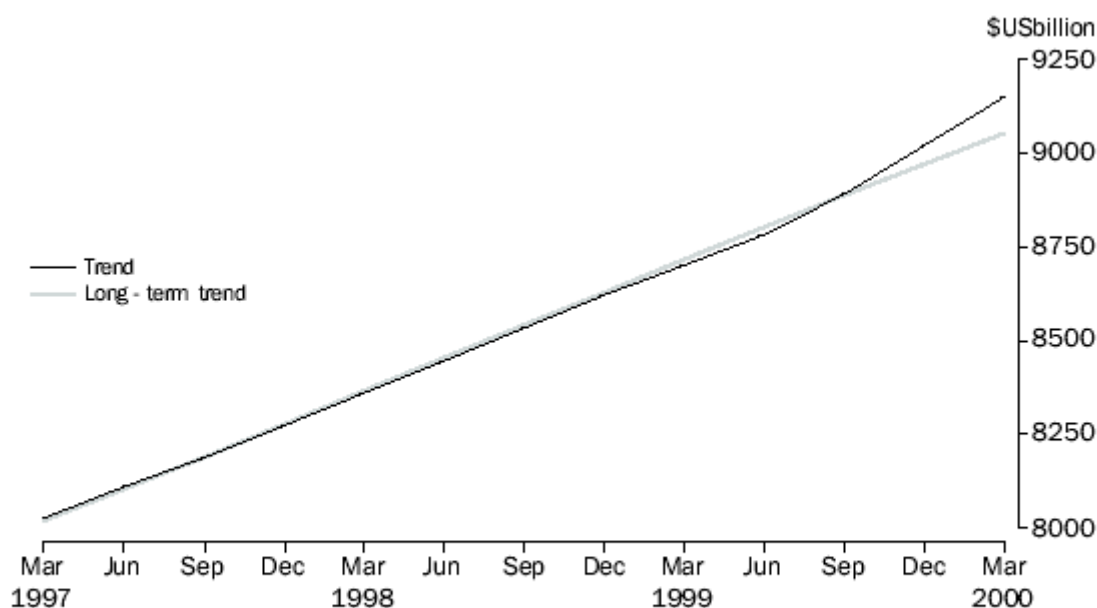
Source: ABS (Cat. no. 6411.0) and RBA Bulletin.

The trade factor is defined as the ratio between commodity prices in terms of Special Drawing Rights and the price index for imported materials used by Australian producers. This ratio gives an early estimate of the terms of trade. In the March quarter 2000 the trade factor trend slowed marginally for the third consecutive quarter, while the historical long-term trend declined more rapidly than the trend. Consequently, the trade factor component made a positive contribution (0.06) to the XCLI in the March quarter 2000, its fifth consecutive positive contribution.

The marginal decline in the trade factor trend is attributable to a small decline in commodity prices (measured in terms of Special Drawing Rights) against a rise in the price index for imported materials.

## United States GDP

### 5. UNITED STATES GDP, Chain volume measure (Reference year 1996)

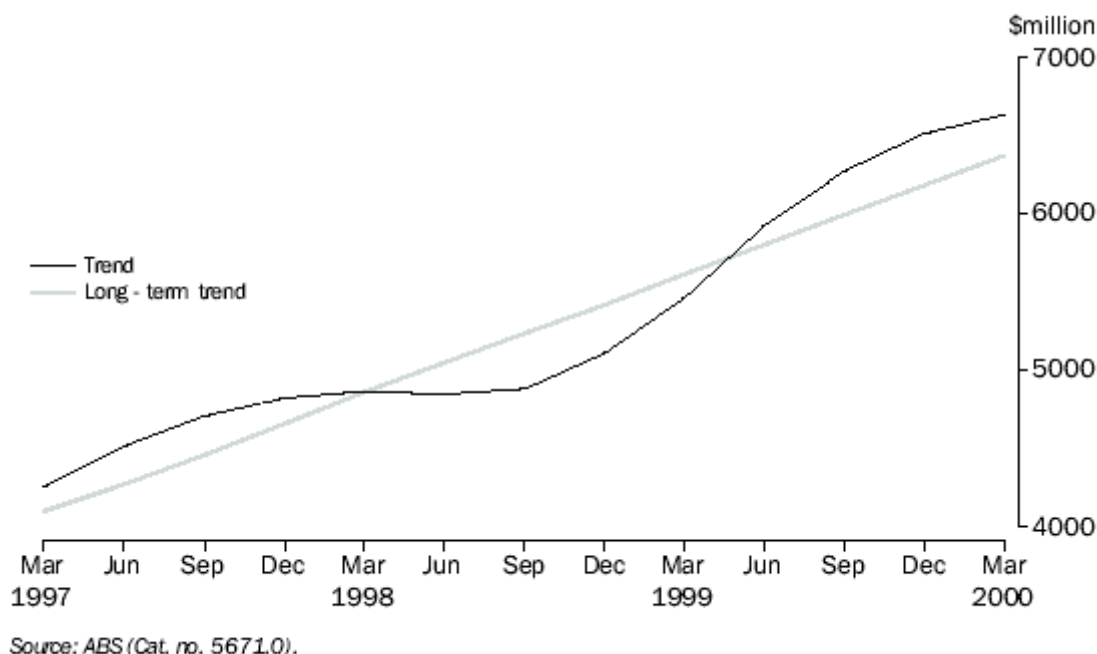


Source: US Bureau of Economic Analysis.

The trend of United States GDP has been growing more rapidly than its historical long-term trend since the September quarter 1999, including for the March quarter 2000. The US GDP component made a positive contribution (0.09) in the March quarter 2000, which was the largest of all the components of the XCLI.

## Secured housing finance commitments

### 6. SECURED HOUSING FINANCE COMMITMENTS

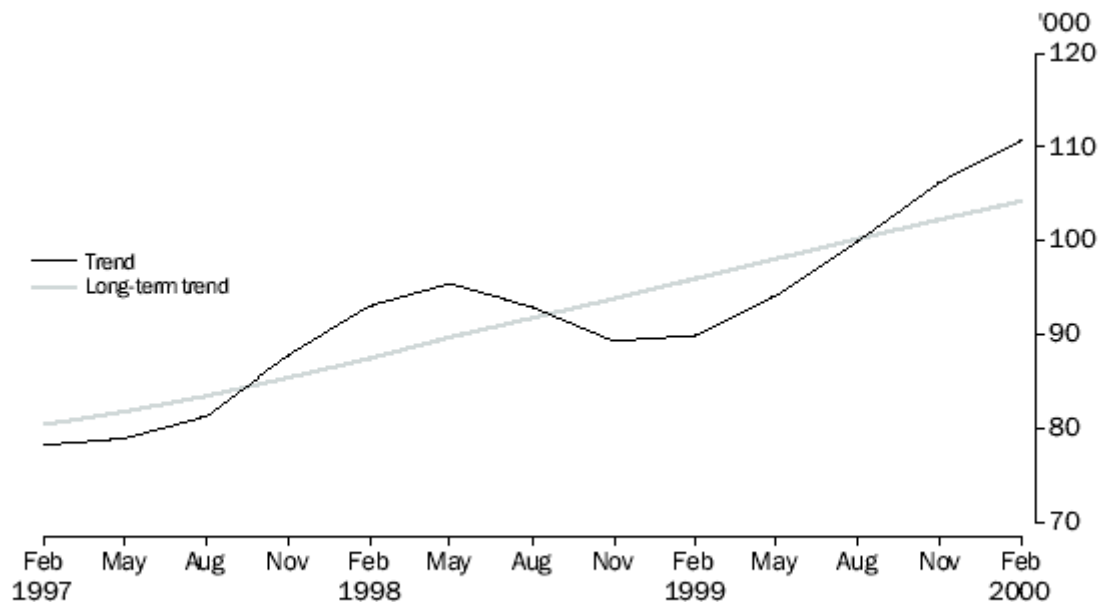


The trend of the secured housing finance commitments component grew more rapidly than its historical long-term trend from the December quarter 1998 until the December quarter 1999. In the March quarter 2000, this position was reversed and as a result the housing finance component made a negative contribution (-0.03) to the XCLI in the March quarter 2000. The decline of this component's contribution to the XCLI in the past three quarters is indicative of weakening growth in the housing market compared to the preceeding year.

## Job Vacancies

**Note** that the job vacancies series are referenced to the middle month of a quarter.

### 7. JOB VACANCIES

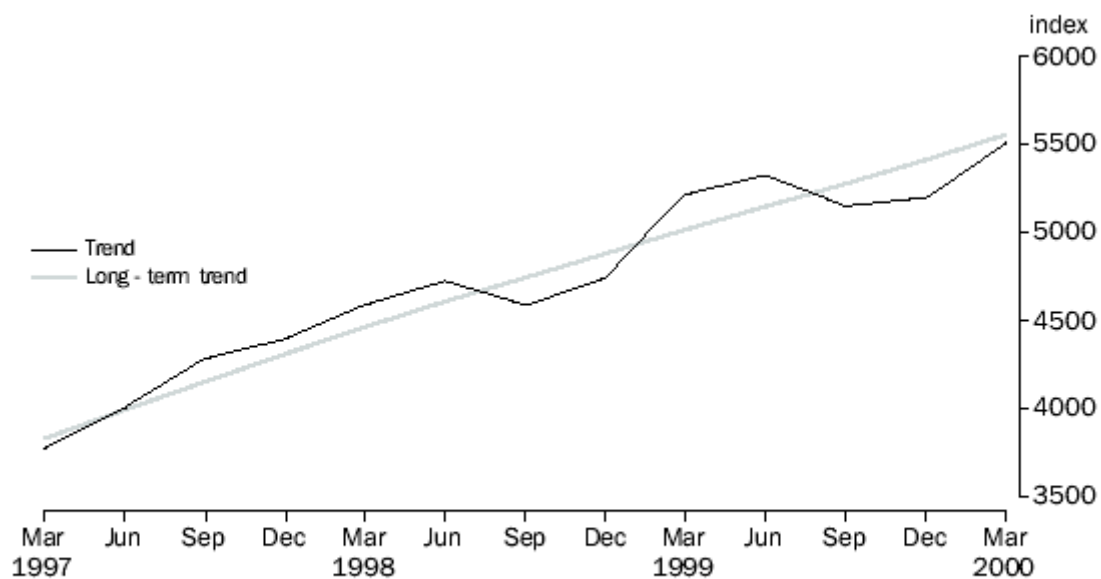


Source: ABS (Cat. no. 6354.0).

The trend of the number of job vacancies rose in February 2000 for the fifth consecutive quarter. The trend series has recorded strong rises in the last four quarters in contrast to quite gradual rises recorded in the historical long-term trend. However, in February 2000, the growth rate of the trend rose less rapidly than it had in the previous few quarters. Consequently, job vacancies made a smaller positive contribution (0.03) to the XCLI in the March quarter 2000 compared to contributions in the previous two quarters of 0.06. This may be the precursor to a slowing of growth in the currently buoyant labour market.

## All Industrials index

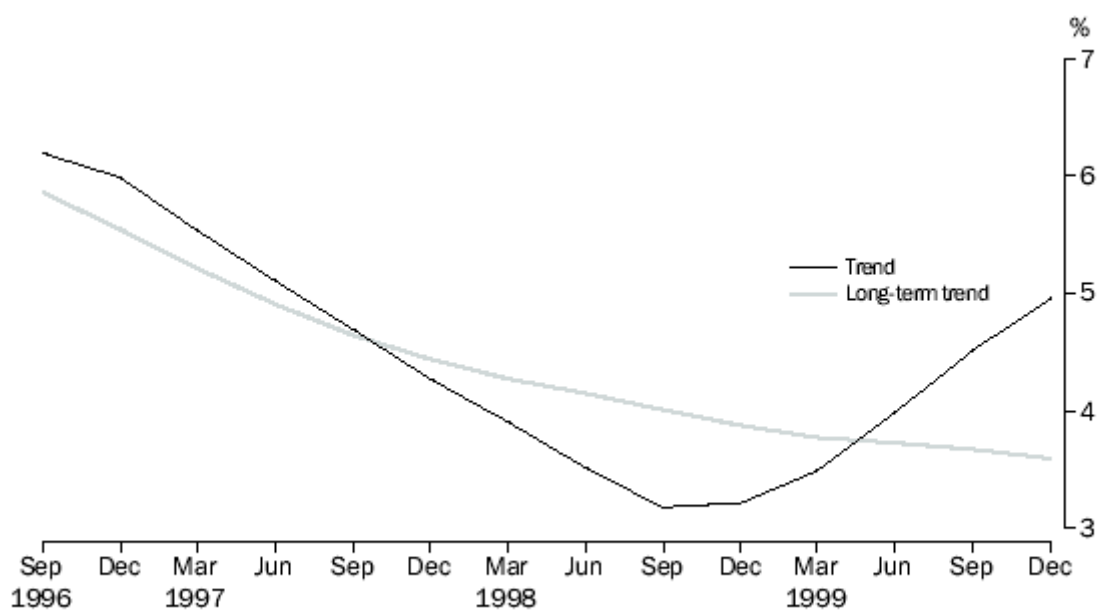
### 8. ALL INDUSTRIALS INDEX



Source: Australian Stock Exchange.

In the March quarter 2000, the growth rate of the All Industrials index trend series rose more rapidly than its historical long-term trend growth rate. As a result, the All Industrials index component made a positive contribution to the XCLI in the March quarter 2000 (0.05).

## 9. REAL INTEREST RATE



Source: ABS (Cat. no. 5206.0) and Treasury.

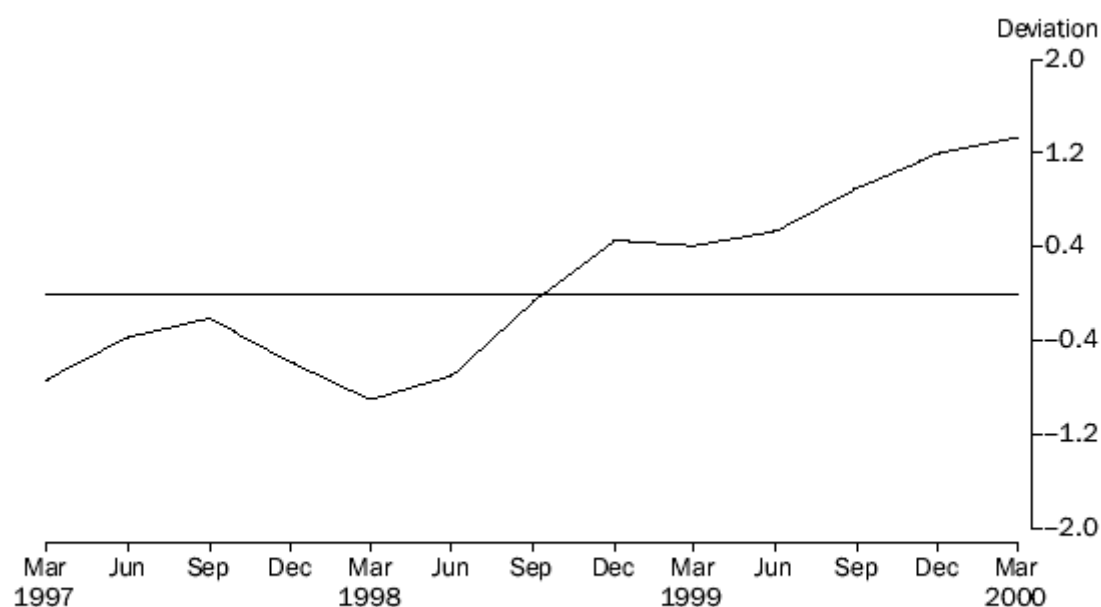
The XCLI uses the inverse of the difference between the trend and the historical long-term trend of the real interest rate, lagged four quarters. Therefore, it is the March quarter 1999 movement of the real interest rate that contributes to the March quarter 2000 movement in the XCLI. In the March quarter 2000, the real interest rate component (once inverted) made the largest negative contribution to the XCLI (-0.07) of all the components of the XCLI.

Since the December quarter 1998, the real interest rate trend has been rising while its historical long-term trend has been declining. The implication of this relationship is that real interest rates are likely to continue to make negative contributions to the XCLI in the next few quarters.

## Production and business expectations

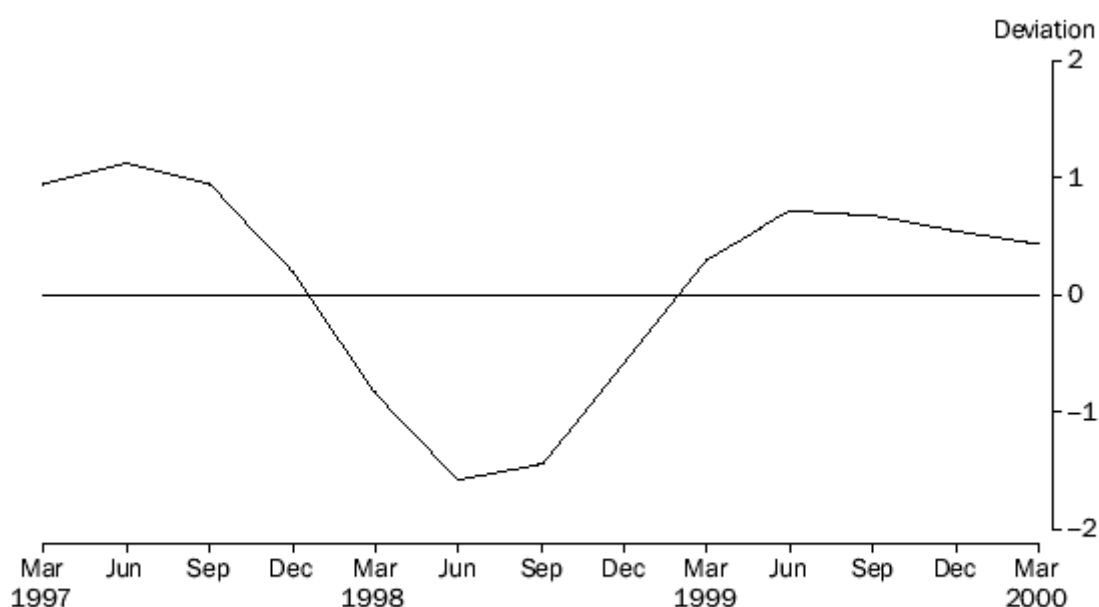
## 10. PRODUCTION EXPECTATIONS, Trend





Source: ACO and Westpac and Survey of Industrial Trends.

## 11. BUSINESS EXPECTATIONS, Trend



Source: ACO and Westpac and Survey of Industrial Trends.

**Note:** These components are lagged one quarter in the compilation of the XCLI. Like other XCLI components, the production expectations and business expectations series have been smoothed and standardised to display cyclical behaviour. However, these series are not considered to exhibit long-term trend growth.

In the March quarter 2000, trend production expectations rose for the eighth consecutive quarter. As a consequence of the rise in the December quarter 1999, this component has contributed positively (0.03) to the XCLI for the March quarter 2000.

Trend business expectations has been declining since the June quarter 1999. This component made a second consecutive negative contribution to the XCLI for the March quarter 2000.

**Note:** The source of these expectations series is the Australian Chamber of Commerce and

Industry, and Westpac Banking Corporation, Survey of Industrial Trends. The ABS also compiles business expectations data. However, these cannot yet be included as a component of the XCLI due to the insufficient length of the time series.

## LONGER TIME SERIES AND FURTHER DETAILS

Details of the compilation of the XCLI index can be found in **An Experimental Composite Leading Indicator of Australian Economic Activity**, (1347.0), June 1993, and in the feature articles published in **Australian Economic Indicators** (1350.0) in August, October 1992 and May 1993.

Longer time series of the data presented in this XCLI note are now available on PC AUSSTATS. For further information about these statistics, contact Costa Pappas (02) 6252 6161.

## ENDNOTE

The unit of measurement varies between XCLI components. For example, the real interest rate is measured as a per cent, job vacancies as a number, United States GDP in dollar terms and the trade factor is measured in index number form. Each component is therefore standardised to make their contributions to the XCLI comparable.

The standardisation procedure gives each XCLI component an average value of 1. The variation of each component about its average is also standardised, so that the average deviation also equals 1. Chain volume GDP (the reference series) is also standardised in the same way.

Graphs 1 and 3 use the standardised forms of the XCLI, GDP and non-farm GDP series. The graphs show the deviation of the standardised series from their respective historical long-term trends. Because of the standardisation procedure, the deviation measure has no particular unit (i.e. it is not measured in dollars, or per cent change, or any other real world unit).

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